Malthus, the Poor Law, and Population in Early Nineteenth-Century England

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The Reverend T. R. Malthus was one of the severest early nineteenth-century critics of the Old Poor Law and one of the firmest advocates of its total abolition. The vast body of his comments on the Poor Law are found in his An Essay on the Principle of Population, especially the 1803 and subsequent editions which were very much enlarged versions of his original work published in 1798. Here he devoted several chapters specifically to the Poor Law and presented ideas which profoundly influenced the thinking of his contemporaries. Apart from this, Malthus wrote only one tract directly referring to the pre-1834 Poor Law—A Letter to Samuel Whitbread, Esq., M.P. on his Proposed Bill for the Amendment of the Poor Laws.

The purpose of this article is to dispute the contention of Malthus that the Old Poor Law operated institutionally to promote population growth. First, the theories which Malthus proposed regarding the relationship between the Old Poor Law and population trends are examined. Second, the manner and extent to which these theories were accepted by government commissioners and local clergymen alike in the early nineteenth century are discussed. Third, the approaches of certain economic and demographic historians to this subject are challenged both methodologically and in the light of national statistics. In the last part of the paper a methodological hypothesis is established where, by reference to local data in the county of Kent, the theories of Malthus can be tested.

I

D. E. C. Eversley has rightly remarked of Malthus that no writer of his fame had greater facility in nullifying in a footnote what had previously taken six or seven pages to explain. Malthus is indeed full of contradictions, and turned his arguments on or off at will. It is not difficult, however, to understand his position with respect to the Poor Law, for although he did make certain qualifications he was usually outspoken on this subject.

Malthus saw the Old Poor Law as an institution which directly encouraged population growth. “The first obvious tendency is to increase population”, he

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1 I would like to thank Dr Michael Drake for his many helpful comments and suggestions in the course of writing and revising this article. Any errors which remain are, of course, my sole responsibility.

2 The full title of the original work is An Essay on the Principle of Population, as it Affects the Future Improvement of Society, with Remarks on the Speculations of Mr. Godwin, M. Condorcet, and Other Writers (1798). The new and enlarged version was entitled An Essay on the Principle of Population or a View of its Past and Present Effects on Human Happiness; with an Inquiry into our Prospects Respecting the Future Removal or Mitigation of the Evils which it Occasions (1803). The ninth edition of the work (1888) is used in this article and is subsequently referred to as Essay.


stated, "without increasing the food for its support. A poor man may marry with little or no prospect of being able to support a family without parish assistance."\(^1\)

It was the payment of children's allowances which Malthus singled out as the prime mechanism by which the Poor Law promoted population increase. These allowances encouraged three basic developments. First, they virtually eradicated any inequalities in the standard of living between the single and the married man, in that with allowances a man in effect was guaranteed support for his wife and children.

This equalizing of the situation of the single and married man had the second more important effect of lessening the preventive check on marriage. Referring to the common people, Malthus remarks: "They are taught that there is no occasion whatever for them to put any sort of restraint upon their inclinations or exercise any degree of prudence in the affair of marriage because the parish is bound to provide for all that are born."\(^2\) The Poor Laws operated, however, not only in the above negative sense of lessening a restraint but more positively, according to Malthus, as a "direct, constant, and systematical encouragement to marriage by removing from each individual that heavy responsibility which he would incur by the laws of nature for bringing human beings into the world which he could not support".\(^3\) The encouragement to marriage thus afforded by the Poor Laws implied earlier marriage as well. To counteract these "early tendencies", especially since the strongest temptations came at 18, 19, or 20 years of age, Malthus advocated the strictest individual moral restraint.

The third effect of allowances was to undermine the independence of the agricultural labourer. "The love of independence", said Malthus, "is a sentiment that surely none would wish to see eradicated; though the poor-laws of England, it must be confessed, are a system of all others to weaken this sentiment and in the end will probably destroy it completely."\(^4\)

As to the overall demographic effects of the above factors, Malthus concluded that the Poor Laws acted as a bounty on population and thus operated as the fundamental cause of surplus labour in the countryside. "The poor-laws", he stated, "tend in the most marked manner to make the supply of labour exceed the demand for it." The root cause of poverty and its increase via population growth lay, then, with the individual labourer encouraged to marry and reproduce without means of support, rather than with general economic conditions. Indeed Malthus refused to view high corn prices as the prime factor in producing poverty:

In some conversations with labouring men during the late scarcities [1800 and 1801] I confess that I was to the last degree disheartened at observing their inveterate prejudices on the subject of grain, and I feel very strongly the almost absolute incompatibility of a government really free with such a degree of ignorance [my italics].\(^5\)

Malthus did, however, qualify his theories. The tendency of the Poor Law to encourage marriage was checked by two factors. The relief granted by overseers to persons in distress, Malthus conceded, was often scanty and distributed in such a capricious and insulting manner that it deterred "the more thinking and virtu-
ous part of the peasantry of England from venturing on marriage without some better prospect of maintaining their families than mere parish assistance”. It is difficult to place such a statement in quantitative terms. Considering, however, Malthus’s general tone, one might conclude that such “thinking and virtuous” labourers formed a minority of the labouring classes.

A second check was provided ironically by the Poor Laws themselves:

As each parish is obliged to maintain its own poor, it is naturally fearful of increasing their number and every landholder is in consequence more inclined to pull down than to build cottages, except when the demand for labourers is really urgent. This deficiency of cottages operates necessarily as a strong check to marriage and this check is probably the principal reason why we have been able to continue the system of the poor-laws so long.¹

It was this check which led Malthus to admit in his Letter to Whitbread “that the poor-laws do not encourage early marriage so much as might naturally be expected” [Malthus’s italics].²

Nevertheless, the tendency of the Poor Laws to promote “imprudent marriages” did in Malthus’s view have an effect dangerous enough to warrant the total abolition of these laws. On these grounds, he denied the existence of any “right” to subsistence whatever. The only aid available should be private charity, and then only to the most deserving of the poor whose circumstances (occasioned by sickness or accident) were beyond their control. He summed up his position thus:

and nothing perhaps would tend so strongly to excite a spirit of industry or economy among the poor as a thorough knowledge that their happiness must always depend principally upon themselves; and that if they obey their passions instead of their reason, or be not industrious and frugal while they are single to save a sum for the common contingencies of the married state, they must expect to suffer the natural evils which Providence has prepared for those who disobey the repeated admonitions.³

Malthus, moreover, used his population theory as a powerful lever in countering several proposals towards a solution to the poverty problem. To Samuel Whitbread’s suggestion that parishes should be empowered to erect cottages for the poor, Malthus replied:

Such is the tendency to form early connections that with the encouragement of a sufficient number of tenements I have very little doubt that the population might be so pushed, and such a quantity of labour in time thrown into the market as to render the condition of the independent labourer absolutely hopeless, and to make the common wages of day labour insufficient to support a single child without parish assistance.⁴

He likewise countered Arthur Young’s proposal to present every country labourer having three children or more with half an acre of land for potatoes and enough grass to feed one or two cows, with the argument that such a plan would “operate in the most direct manner as an encouragement to marriage and a bounty upon children”.⁵

The same type of argument was employed against Townsend’s *Dissertation on the Poor Laws* where it was suggested that compulsory benefit clubs or friendly societies should be formed, single men paying one-quarter of their salary, married men with four or more children paying one-thirtieth of their salary. Such a scheme, said Malthus, “would evidently operate as a heavy fine upon bachelors and a high bounty upon children”.¹

Malthus, as well, was not averse to making comparisons with other European countries to support his population–Poor Law theory. “Even in France,” he stated, “with all her advantages of situation and climate, the tendency to population is so great and the want of foresight among the lower classes of the people so remarkable that if poor-laws were established the landed property would soon sink under the burden, and the wretchedness of the people at the same time be increased.”² With regard to Norway the introduction of poor laws on the English model would destroy the preventive check at once and ultimately involve the country “in all the horrors of continual famines”.

It was by adopting a position of extreme laissez-faire—abolishing any right to subsistence and placing the entire burden for the prevention of poverty upon the moral restraint of the individual in not marrying until able to support a family—that Malthus hoped to eradicate the demographic evils of the Old Poor Law.

II

That Malthus’s views were widely shared by his contemporaries is evident from a number of official government papers published in the early nineteenth century. John Rickman in his preface to the 1831 *Census of England and Wales* referring to comments made by the local clergy in their population returns stated:

> The Remarks which state the Increase of Population to have resulted from the operation of the Poor Laws are too frequent for distinct insertion: they suppose persons to marry with a direct view of thereby obtaining a weekly allowance, or at least in reliance on that kind of resource in time of need;³

Unfortunately these local returns have been destroyed, so that an analysis of the specific nature of the comments and the parishes to which they apply is impossible.

It is, however, possible to gain a comprehensive picture of what contemporaries thought regarding the relationship between population and the Poor Law by examining certain government reports. The texts and evidence of these reports tended to be far more concrete than Malthus, and focused primarily on the scale system of allowances, whether adjusted to the price of bread or given in flat money payments, introduced in the mid-1790’s.⁴ Unlike Malthus, these

¹ Ibid. p. 448. The work referred to is J. Townsend, *A Dissertation on the Poor Laws (by a Well-Wisher to Mankind)* (1786).
² Essay, p. 435.
³ *Abstract of the Answers and Returns, made pursuant to an Act 2 Geo 4, for taking an Account of the Population of Great Britain, and of the Increase and Diminution thereof*, Parl. Papers, 1833, xxxvi, p. xlvi. Subsequently referred to as 1831 *Census of Great Britain*. Rickman himself, however, was sceptical of these views.
⁴ Malthus referred in general terms to children’s allowances and made no firm differentiation between the pre-Spenhamland period and the years after 1795. The government reports refer more frequently to the Spenhamland period of “making-up” the wages of married men in employment to what was deemed necessary for their support. Since this practice based all payments on the number of children per family it can be regarded as an extensive children’s allowance system covering a much wider area of England than in the pre-1795 period.
reports did, on a few occasions, produce empirical demographic evidence in an attempt to support their theories.

Their fundamental conclusion was that the Old Poor Law encouraged population growth and was the prime factor in producing surplus labour. The system of allowances-in-aid-of-wages offered direct encouragement to marriage. Thus the 1824 Select Committee on Labourers Wages concluded:

A surplus population is encouraged; men who receive but a small pittance know that they have only to marry, and that pittance will be augmented in proportion to the number of their children... An intelligent witness, who is much in the habit of employing labourers, states, that when complaining of their allowance, they frequently say to him, "we will marry, and you must maintain us."¹

C. P. Villiers reporting in 1834 for the Northern Division of Devonshire stated his case thus: "The allowance for children is granted, operating as a direct bounty upon population, and the practice is so general and confirmed, that the pauper is in the habit of giving formal notice to the overseer of the pregnancy of his wife."²

The mechanism by which the allowance system increased population emerges from the reports as very similar to the case put by Malthus. Much more stress, however, was placed on the disadvantages of remaining single, especially with respect to employment. The 1834 Report, for example, stated:

Those who are guilty of a still more important act of prudence... that of deferring the period of marriage, are punished sometimes by being refused permission to work, sometimes by being allowed to work only a given number of days in each week, sometimes by being paid for a full week's labour only a portion, often not half or a third, of what they see their married fellow workmen receive.³

The 1828 Select Committee Relating to the Employment or Relief of Able-Bodied Persons from the Poor Rates used similar evidence to conclude that the married man in receipt of allowances was actually better off than the man who remained single. Where wages were made up according to a fixed scale, the farmers and rate-payers, according to the report, were

in the almost constant habit of giving the man with a family, the preference in employment; reserving for him any job work, and rejecting the application of single men, who are thus often thrown upon parish employment at low wages, whilst the married man receives more from the farmer, besides an allowance from the parish in proportion to his family. Thus the single labourer not only is no better off, but is in a worse situation than the married man [Report’s italics].⁴

The result of this situation was to undermine "the principal check to improvident marriages among the poorer classes". According to the 1828 report this check had operated when the single man knew he was bound to suffer some loss of comfort when he undertook to marry. The allowances-in-aid-of-wages nulli-

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¹ Select Committee on Labourers Wages, P.P. 1824, vi, 404.
² Report of His Majesty’s Commissioners for Inquiry into the Administration and Practical Application of the Poor Laws, P.P. 1834, xxix, 43. Subsequently referred to as Poor Law Report.
³ Ibid. xxvii, 46.
⁴ Select Committee Relating to the Employment or Relief of Able-Bodied Persons from the Poor Rates, P.P. 1828, iv, 143–4. Subsequently referred to as S.C. Relating to Relief of Able-Bodied.
fied this attitude. As Mr Burrell, overseer of West Grinstead parish in Sussex, put it in 1827: “the farmers have acted on a very absurd and stupid plan; they will not employ single men: the consequence is that a man immediately marries.”

Thomas Bradbury, late overseer of Great Horwood parish in Buckinghamshire, asked whether labourers were getting married to obtain the allowance, replied: “Yes—when they cannot live any longer as single men, they marry, and go to the overseer for employment and a house.”

The more important effect, however, was a drastic tendency towards earlier marriage. Both in the texts of the reports and in much of the evidence the mention of early marriage is prominent. A labourer at Holsworthy in Devon asked by the assistant commissioner in 1834, the cause of the late increase in numbers, replied that the reason was evident, “since the young folks married up so terribly early in these days”. D. O. P. Okeden reporting on the parish of Dunstew in Oxfordshire in 1834, stated that “the early marriages of mere boys is frequent for the avowed purpose of increasing their income by allowance for increase of children.” The overseer of Castle Donnington, Leicestershire, stated that it was “quite a common thing for mere lads to get married in order to get families and by this means get the benefit of a parish allowance”. “Extremely common” was the reply of T. L. Hodges of Helmsted near Cranbrook in Kent when asked about the frequency of marriages among minors in his district.

As to the mention of the specific age at marriage the 1828 Report claimed that the labourer almost invariably married between the ages of 18 and 22, coming “to the parish as a matter of course to maintain their children”. Stephen Walscott reporting for North Wales in 1834 stated that “the majority of young men marry under 24 years of age and frequently under 21 in order to obtain married scale allowances” and adds that this trend did not occur in non-allowance parishes. J. D. Tweedy reporting from Dent parish in the West Riding of Yorkshire asserted that poor people, in order to obtain a higher scale of relief, “marry early, more frequently under 20 years of age than above”. The Rev. P. Blakiston, however, put the case most forcefully: “The result of my inquiries is that in parishes where the allowance system prevails there is hardly an unmarried man above twenty.”

Further examples could be marshalled attributing more and earlier marriages to the allowance system. Suffice it to quote the conclusion of the 1834 Poor Law Report with respect to the agricultural labourer:

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1 Poor Law Report, P.P. 1834, xxxvii, 126. Quoted by George Taylor.
2 Report from the Select Committee appointed to inquire into the expediency of encouraging Emigration from the United Kingdom, P.P. 1826-7, v, Q. 1352. Subsequently referred to as S.C. on Emigration.
3 Poor Law Report, P.P. 1834, xxxvii, 50.
4 Ibid. xxviii, 4.
5 Ibid. xxxix, 9. See also the report of C. H. Maclean on Middlesex, Surrey, and W. Sussex, where he claims that the following paper was circulated in a parish which he visited: *Happy is the man that hath his quiver full of them. Resolved in vestry, that no able-bodied man shall have more than 6s. a week; but as an encouragement to him, if he will marry, he shall immediately have 10s. a week; and as a further encouragement, as soon as he can get a child, he shall have 10s. a week; and if he can get 2 children, he shall have 11s. a week; and if he can get 3 children, he shall have another shilling a week for house-rent; and still further to encourage him, he shall have a gallon of flour for every child he can get above three.*—Ibid. xxviii, 546. The parish is not named.
6 S.C. on Emigration, P.P. 1826, iv, Q.1419.
8 Poor Law Report, P.P. 1834, xxix, 177.
9 Ibid. xxviii, 732.
10 Ibid. xxxvii, 7.
Can we wonder if, to increase his income, and to revenge himself on the parish, he marries, and thus helps to increase the local over-population which is gradually eating away the fund out of which he and all the other labourers of the parish are to be maintained.¹

The reports, however, do qualify their population—Poor Law statements though not sufficiently to detract from the overall emphasis in the comments cited above. D. O. P. Okeden in his summary of Oxfordshire, Wiltshire, and Dorset in 1834 stated:

"I married to increase my income" was the general answer which I everywhere received. But I will not attribute the increase of early marriages to this alone; the system, which except in remote parts of the Kingdom has fallen into disuse, of lodging and boarding the labourers by the farmer, must bear its share in the promotion of these marriages.²

Nevertheless, the scale system of allowances was without doubt the prime factor in encouraging earlier marriages and Okeden rather poetically concluded: "This system is the hydra to be crushed, its heads are many, and each is filled with deadly poison."

As for the Poor Laws ultimately producing surplus labour in the countryside, the major qualifications are stated by George Taylor in his series of articles in the Communications section of the 1834 Poor Law Report. He mentions two factors other than the Poor Laws—first, the rapid decline of farming capital after 1815 which reduced the number of labourers a farmer could afford to employ; and secondly, the conversion of arable land to pasture which diminished opportunities for employment.³ Nevertheless Taylor felt that population increase stemming from the allowance system was the primary cause, as shown by the demographic evidence drawn from government reports which he produced to try to prove his theory.

The first case he cites is that of Leckhamstead parish near Buckingham. Allowances were paid according to the number of children and the price of bread, the effect being "that the young people married much earlier in order to obtain the bread allowance." In 1822, however, this system was abandoned and no able-bodied labourers were paid from the rates. He then refers to the Census figures for this parish—1801, 346; 1811, 397; 1821, 519; 1831, 499—and concludes that the slight drop in population was due to the cessation of the allowance system. He makes no reference in this case to vital events or migration. His proof is thus mere conjecture.

His second case is based on Cookham in Berkshire where a similar abolition of the allowance system took place in 1822. The ten-yearly percentage population increases from 1801 to 1831 he calculated at 7, 6, 13·3, and 22·2. Thus the latter period, 1821–30, when the allowance system had been abolished, revealed a much more rapid population increase than previously. "This might", says Taylor, "appear to make against the proposition it is adduced to support" (as indeed it does). He then refers to a Mr Whately's statement in the 1831 Lords

¹ Poor Law Report, P.P. 1834, xxvii, 49.
² Ibid. xxvii, 24. The implication here is that the labourer no longer living in would seek the domestic advantages of a wife and establish himself in a cottage.
³ Ibid. xxvii, 59, 61.
Report that the number of baptisms in the two nine-year periods under the allowance system were 593 and 706 respectively, compared to 676 in the nine-year period after its abolition. On this basis he concluded that the drop in the number of baptisms was produced by the curtailment of allowances.\(^1\) No reference, however, is made to the number of marriages, to the ratio of baptisms to total population, or to the possibility of omission of baptisms from the registers.

These cases, although proving very little, do reveal along with the literary evidence in the reports the contemporary belief that the allowances-in-aid-of-wages scheme under the Old Poor Law was a prime factor in causing population increase and surplus labour in early nineteenth-century England. Its fundamental mechanism was to undermine the preventive check and thus to encourage both more and earlier marriages. These ideas, I would maintain, stemmed from Malthus's massive \textit{Essay on the Principle of Population} and significantly coloured attitudes to poverty in this period.\(^2\)

### III

Economic historians and demographers have paid scant attention to the Malthusian population–Poor Law theory. There have been only three documented attempts to deal with this issue—G. T. Griffith in 1926,\(^3\) the combined effort of J. S. Blackmore and F. C. Mellonie in the late 1920's,\(^4\) and more recently Prof. J. T. Krause.\(^5\) The first two contributions offer conclusions which tend to controvert the Malthusian contention, while the last argues that the Old Poor Law was a crucial factor causing high fertility in early nineteenth-century England. Each of these approaches, however, reveals serious drawbacks.

Griffith's method was to compare a group of six southern agricultural counties\(^6\) in which, according to the 1824 \textit{Report on Labourers Wages}, the allowances-in-aid-of-wages system was prevalent, with three northern counties\(^7\) in which the system had little effect. Since the population of the allowance counties increased by 4.95 per cent less than that of the non-allowance counties in the period 1801–31, he concluded that the Poor Law was not a significant factor in promoting demographic growth. He later qualifies this conclusion by considering the loss by emigration which the southern allowance counties experienced. Using

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\(^1\) Ibid. xxvii, 55. For further interesting comments on George Taylor's Malthusian position regarding both family allowances and bastardy see U. R. Q. Henriques, 'Bastardy and The New Poor Law', \textit{Past & Present}, xxxvii (July, 1967), 111.

\(^2\) I thus do not fully agree with Henriques's view that Malthus's ideas were "intensely unpopular" (op. cit. p. 112). In addition to his influence on local clergy and the host of government committees discussed above, Malthus did have influence of a more direct political kind. Pitt in 1796, for example, opposed Whitbread's Bill partly on the ground that it conferred no special advantages on the parents of large families. He proposed instead to "make relief in cases where there are a number of children a matter of right and honour instead of a ground for opprobrium and contempt". By 1800, however, Pitt, under the influence of Malthus, had decided not to proceed with his New Poor Law Bill with its encouragement of large families. See G. F. McCleary, \textit{The Malthusian Population Theory} (1953), p. 34.


\(^6\) Suffolk, Sussex, Bedfordshire, Buckinghamshire, Dorset, and Wiltshire.

\(^7\) Cumberland, Northumberland, and Lincolnshire.
natural increase figures for these counties he finally concluded that their percentage increase was probably 2.31 greater than in the non-allowance counties. Comparing the marriage-rates of each set of counties in the Census years from 1801 to 1841, the allowance counties revealed a slightly higher average marriage-rate than the non-allowance counties. On this basis he concluded that, although the difference was not great, the allowance system possibly accentuated the rise in the marriage-rate of the first group of counties in the period 1811–31. Griffith, then, although very sceptical of the Malthusian position, was nevertheless inconclusive in attempting to disprove it.

His methodology, moreover, has serious deficiencies. Griffith made no attempt to standardize occupationally and geographically the groups he was comparing, and thus to isolate the Poor Law as a variable. Using Deane’s and Cole’s classification of counties based on the 1811 Census,1 five of his six southern counties are agricultural (Dorset would be classified as mixed), whereas only one of his three northern counties can be considered agricultural (Lincolnshire). Cumberland is classified as mixed and Northumberland as industrial and commercial. Griffith thus allowed a variety of factors other than the Poor Law to influence his calculations.

His classification of counties, as well, was based on one year only (1824) and he assumed this classification to apply uniformly over a 30-year period. He could not consider, therefore, changes in the nature and extent of the allowance system within his counties. Considering the ad hoc, almost ephemeral, nature of Poor Law administration in this period, such a uniformity seems improbable.2 His marriage-rates, furthermore, were based only on Census years, thus obscuring developments in the decades between them.

Blackmore and Mellonie conducted an inquiry into the relationship between the allowance system of late eighteenth- and early nineteenth-century England and the birth-rate. The inquiry was stimulated by the contemporary debate concerning the introduction of a Family Endowment Scheme in England. Their method was to compare the birth-rates of three groups—agricultural counties which did not pay allowances, agricultural counties which paid allowances, and a random selection of “notorious” parishes which paid allowances—over the period 1801–31. They concluded that there was no connexion between the allowance system and the birth-rate, and certainly nothing to suggest that the former produced a rise in the latter.

This method is likewise open to several objections. They do not state the criteria upon which they classify a county as “Speenhamland” as opposed to “non-Speenhamland” and are thus much vaguer than Griffith on this score. Like Griffith they assume their classification to apply uniformly over the thirty-year period. This is particularly open to question in the case of their “notorious” parishes, the classification of which is based on the 1834 Poor Law Report. It is obvious that a parish which paid allowances in 1834 might not have done so in

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2 J. W. Cowell, the Assistant Commissioner for Cambridgeshire, perhaps summed it up best: “The common law of pauperism resides in the breasts of the magistrates, and it belongs to them to declare it (practically) without appeal; as it is not corrected by precedent or confined by analogy, it is never precisely the same in any two hundreds at the same time, nor in the same hundred at different times.”—Poor Law Report, P.P. 1834, xxviii, 594.
1810, 1820, or even 1830. Again, like Griffith, they make no attempt to standardize their groupings to isolate the allowance system variable. A further objection is a demographic one. In recent years the quality and reliability of English parish registers in the eighteenth and early nineteenth centuries have come under close scrutiny. One historical demographer has argued for a marked deterioration in their reliability for the early nineteenth century. By not taking account of possible under-registration in their baptism figures they render their demographic evidence highly suspect. A last objection similar to one against Griffith is that their birth-rates are based only on Census years.

J. T. Krause has more recently argued that the Old Poor Law was a major cause of high fertility in the early nineteenth century. Defining a “Poor Law” county rather arbitrarily as one which paid more than £4 10s. per family annually in the period 1817–21, he shows that the mean general fertility ratio of these seven counties in 1821 (Berkshire, Buckinghamshire, Essex, Kent, Oxfordshire, Suffolk, and Sussex)—i.e. the number of children 0–4 per 1,000 women aged 15–49—was 6.43 compared to 5.67 for the remainder of non-industrial England and Wales, a difference of 13.4 per cent. Although, on this basis, the “Poor Law” counties appear to be associated with high fertility, to argue, as Krause does, that the Poor Law caused high fertility is another matter entirely. It is quite possible that greater poor expenditure was the result of a higher fertility in turn caused by exogenous factors. To support his causal theory Krause states that the fertility ratios of his “Poor Law” counties dropped by 16 per cent as a consequence of the legislation of the 1830’s and 1840’s, whereas the average ratio of the remainder of non-industrial England dropped by only 12 per cent. The difference in this percentage decrease between 1821 and 1851 is surely not as drastic as one would have expected if poor expenditure was a major cause of high fertility.

It should also be noted that thirteen or almost half the years which Krause uses as an interval to assess the drop in fertility (i.e. between 1821 and 1851) apply to years of the Old Poor Law. A different picture emerges if one calculates general fertility ratios for 1841. Taking the seven “Poor Law” counties, their mean general fertility ratio in 1841 (5.33) represents a drop of 16.5 per cent from my calculation of the level in 1821. The mean ratio of these counties actually rose between 1841 and 1851 by 2.8 per cent. It is evident, then, that the trend implied in Krause’s statistics (of a falling fertility in these counties during the legislation of the 1830’s and 1840’s) is not quite accurate. The fall came during the period 1821–41 and not 1841–51. On these grounds it is quite likely that some of the decline in fertility between 1821 and 1841 occurred under the Old Poor Law in

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2 Krause, ‘Changes in English Fertility and Mortality’, op. cit. p. 68. My calculations reveal a mean fertility ratio of 6.58 for the “Poor Law” counties, 12.5 per cent higher than the remainder of non-industrial England. See also ‘Some Neglected Factors in the English Industrial Revolution’, Journal of Economic History, xix (1959), 530–1, and ‘Some Implications of Recent Work in Historical Demography’, Comparative Studies in Society and History, i (1959), 172, where Krause also cites the Old Poor Law as a crucial factor in his general support for the “rising birth-rate” view of English population in the Industrial Revolution.
3 Using my calculations for the seven “Poor Law” counties, the drop in average fertility ratio between 1821 (6.38) and 1851 (5.48) is 14.1 per cent, and thus the discrepancy as compared to the fall in the other counties is even less.
the period 1821–34. If such is the case, then any contention that the Old Poor Law caused or maintained high fertility is doubtful.

It is Krause’s contention that fertility remained high in the 1820’s on the grounds that in his “Poor Law” counties the percentage of males under 20 was virtually the same in 1831 as in 1821. Any conclusions based on the partial age data for males in 1831 is, however, prejudiced by the following instructions given to the enumerators of the Census: “N.B. If this Number of Males upwards of Twenty Years old should differ materially [or otherwise, as compared to the return of 1821] from One Half of the total Number of Males, some error has probably been committed, and the Answer to this Question should be examined and corrected if necessary.” This direction would tend to produce data yielding similar ratios for 1821 and 1831.

By estimating the age-structure by sex for England and Wales in 1831 and calculating a series of general fertility ratios including this year, it is possible to argue that fertility did indeed show a marked decline in the period 1821–31—prior, that is, to any fundamental reorganization of the Old Poor Law. By using the survival ratios of English Life Table no. 3, and working forwards in decennial groupings from the age-structure given in the 1821 Census, and backwards from 1841, two sets of decennial age estimates were calculated for England and Wales in 1831. The use of English Life Table no. 3 (based on the period 1838–54) for the period 1821–41 assumes, of course, that mortality was constant over the whole period 1821–54. By observing the discrepancy between the totals of males and females for the 1831 Census and my estimate, one can examine the extent to which this assumption is warranted.

The following tables give the estimates derived by working forwards from 1821 (A), backwards from 1841 (B), and also include the mean values of the two methods (C). With respect to the age totals listed below for 1821 and 1841, the ages not specified in the Census returns were distributed throughout the age groupings in the same proportion as the ages given.

The 1831 Census total of males was 6,771,190. Thus the total number for the forwards estimate (A) is 2.69 per cent in excess of the 1831 Census, but working backwards from 1841 (estimate B) the excess is only 0.75 per cent. Estimate (A) for females is 0.75 per cent less than the 1831 Census total of 7,125,997. Estimate (B) for females is 1.37 per cent in excess of the Census figure. Taking males and females together, estimate (A) for the total population in 1831 is 0.96 per cent in excess of the enumeration, estimate (B) 1.06 per cent in excess. These estimates would certainly appear close enough to the 1831 Census figures to argue that the

1 Krause, ‘Changes in English Fertility and Mortality’, op. cit. p. 68n. Based on information given in the 1831 Census which divided males into those over 20 and those under 20.

2 1831 Census of Great Britain, P.P. 1833, xxxvi, vi.

3 The age estimates were undertaken on a national scale since, in this case, the factors of migration would be statistically less influential than if calculations were undertaken at a county level.

4 This method is similar to that employed by W. A. Armstrong to calculate the age-structure by sex for England and Wales for 1791, 1801, and 1811. Using the survival ratios of English Life Table no. 3, he worked backwards from the 1821 Census. See W. A. Armstrong, ‘La Population de l’Angleterre et du Pays de Galles (1789–1815)’, Annales de Démographie Historique (1965), pp. 135–89, especially Appendix A, pp. 180–3.

5 The totals for 1841 omit 4,130 males and 886 females ascertained to be travelling on railways and canals. These figures refer to the whole of the British Isles and the ages of the vast majority of these persons were not specified.
Table 1. (a) Estimates of Male Decennial Age-structure for England and Wales in 1831: (A) Forwards from 1821, (B) Backwards from 1841, and (C) Mean Values

<table>
<thead>
<tr>
<th>Age group</th>
<th>Total 1821</th>
<th>Life table factor</th>
<th>1831 Estimates</th>
<th>Mean value</th>
<th>Backwards 1841 Life table factor</th>
<th>Total 1841</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>1,687,088</td>
<td>0.9010</td>
<td>1,842,955</td>
<td>1,842,955</td>
<td>1,842,955</td>
<td>0.9010</td>
<td>1,999,901</td>
</tr>
<tr>
<td>10-19</td>
<td>1,266,318</td>
<td>0.9048</td>
<td>1,530,066</td>
<td>1,477,088</td>
<td>1,435,090</td>
<td>0.9048</td>
<td>1,660,867</td>
</tr>
<tr>
<td>20-29</td>
<td>961,836</td>
<td>0.9163</td>
<td>1,173,856</td>
<td>1,139,468</td>
<td>1,105,080</td>
<td>0.9163</td>
<td>1,333,170</td>
</tr>
<tr>
<td>30-39</td>
<td>743,242</td>
<td>0.8787</td>
<td>689,509</td>
<td>861,149</td>
<td>852,789</td>
<td>0.8787</td>
<td>999,003</td>
</tr>
<tr>
<td>40-49</td>
<td>547,806</td>
<td>0.8244</td>
<td>532,305</td>
<td>627,104</td>
<td>610,902</td>
<td>0.8244</td>
<td>749,467</td>
</tr>
<tr>
<td>50-59</td>
<td>388,659</td>
<td>0.71752</td>
<td>451,852</td>
<td>455,568</td>
<td>459,283</td>
<td>0.71752</td>
<td>496,743</td>
</tr>
<tr>
<td>60-69</td>
<td>262,937</td>
<td>0.50966</td>
<td>278,871</td>
<td>295,978</td>
<td>313,085</td>
<td>0.50966</td>
<td>399,545</td>
</tr>
<tr>
<td>70-79</td>
<td>136,648</td>
<td>0.24752</td>
<td>134,008</td>
<td>150,256</td>
<td>166,504</td>
<td>0.24752</td>
<td>159,357</td>
</tr>
<tr>
<td>80-89</td>
<td>33,603</td>
<td>0.9085</td>
<td>32,338</td>
<td>37,424</td>
<td>42,145</td>
<td>0.9085</td>
<td>41,213</td>
</tr>
<tr>
<td>90-99</td>
<td>3,559</td>
<td>-</td>
<td>3,581</td>
<td>3,581</td>
<td>3,581</td>
<td>-</td>
<td>2,986</td>
</tr>
<tr>
<td>100+</td>
<td>-</td>
<td>-</td>
<td>68</td>
<td>-</td>
<td>75?</td>
<td>-</td>
<td>82</td>
</tr>
</tbody>
</table>

Total 6,022,746 6,958,209 6,890,164 6,822,115 7,771,994

% Discrepancy from 1831 +2.69% +1.76% +0.75%

Census total

Sources: Census of England and Wales, 1821 and 1841, and English Life Table no. 3 in 28th Annual Report of the Registrar General.

Table 1. (b) Estimates of Female Decennial Age-structure for England and Wales in 1831: (A) Forwards from 1821, (B) Backwards from 1841, and (C) Mean Values

<table>
<thead>
<tr>
<th>Age group</th>
<th>Total 1821</th>
<th>Life table factor</th>
<th>1831 Estimates</th>
<th>Mean value</th>
<th>Backwards 1841 Life table factor</th>
<th>Total 1841</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>1,665,793</td>
<td>0.90126</td>
<td>1,838,247</td>
<td>1,838,247</td>
<td>1,838,247</td>
<td>0.90126</td>
<td>2,009,604</td>
</tr>
<tr>
<td>10-19</td>
<td>1,263,150</td>
<td>0.92511</td>
<td>1,501,313</td>
<td>1,560,693</td>
<td>1,620,073</td>
<td>0.92511</td>
<td>1,656,739</td>
</tr>
<tr>
<td>20-29</td>
<td>1,030,400</td>
<td>0.90010</td>
<td>1,168,553</td>
<td>1,168,384</td>
<td>1,168,215</td>
<td>0.90010</td>
<td>1,498,746</td>
</tr>
<tr>
<td>30-39</td>
<td>742,509</td>
<td>0.87996</td>
<td>927,463</td>
<td>905,516</td>
<td>883,569</td>
<td>0.87996</td>
<td>1,051,511</td>
</tr>
<tr>
<td>40-49</td>
<td>572,711</td>
<td>0.84611</td>
<td>633,736</td>
<td>639,458</td>
<td>625,338</td>
<td>0.84611</td>
<td>777,505</td>
</tr>
<tr>
<td>50-59</td>
<td>402,927</td>
<td>0.74670</td>
<td>484,577</td>
<td>499,706</td>
<td>494,835</td>
<td>0.74670</td>
<td>529,274</td>
</tr>
<tr>
<td>60-69</td>
<td>264,064</td>
<td>0.54432</td>
<td>300,620</td>
<td>319,757</td>
<td>339,904</td>
<td>0.54432</td>
<td>369,493</td>
</tr>
<tr>
<td>70-79</td>
<td>142,496</td>
<td>0.27753</td>
<td>135,057</td>
<td>173,318</td>
<td>191,579</td>
<td>0.27753</td>
<td>184,472</td>
</tr>
<tr>
<td>80-89</td>
<td>41,513</td>
<td>0.08430</td>
<td>39,546</td>
<td>49,234</td>
<td>58,921</td>
<td>0.08430</td>
<td>33,169</td>
</tr>
<tr>
<td>90-99</td>
<td>3,759</td>
<td>-</td>
<td>3,500</td>
<td>3,500</td>
<td>3,500</td>
<td>-</td>
<td>4,967</td>
</tr>
<tr>
<td>100+</td>
<td>-</td>
<td>-</td>
<td>147</td>
<td>157?</td>
<td>167?</td>
<td>-</td>
<td>167</td>
</tr>
</tbody>
</table>

Total 6,149,020 7,072,391 7,147,970 7,223,548 8,135,647

% Discrepancy from 1831 -0.75% +0.31% +1.37%

Census total

Sources: Census of England and Wales, 1821 and 1841, and English Life Table no. 3 in 28th Annual Report of the Registrar General.

Life table factors employed in the calculations are valid for the period 1821–41.¹

¹ Other tests of the estimates are to compare the resultant overall sex ratios with the 1831 Census and also to compare the ratios of males over 20 with those under 20. The 1831 Census revealed a ratio of 950 males per 1,000 females. Estimate (b) is very close to this (944 males per 1,000 females), estimate (A) being farther off at 984 males per 1,000 females. The ratios of males over 20 per 1,000 males under 20 were 1,069 and 1,081 for estimates (A) and (b) respectively. These are considerably higher than the 1831 ratio of 1,005, although instructions to the enumerators cited above would perhaps make the Census ratio too low.
Using Armstrong's age-structure estimates for 1791, 1801, and 1811, and the three sets of estimates above for 1831, along with the Census material for 1821, 1841, and 1851, three series of general fertility ratios were calculated for the period 1791–1851. Since only decennial age groupings are available, it is not possible to employ the standard general fertility ratio of children 0–4 per 1,000 women 15–49 in the same year. The ratio employed here is children 0–9 in a Census year per 1,000 women 20–39 in the previous Census year. The following tables give the three sets of ratios and the percentage change from one period to the next.

**Table 2. General Fertility Ratios for England and Wales, 1791–1851:**
**Number of Children 0–9 per 1,000 Women 20–39 in previous Census Year**

<table>
<thead>
<tr>
<th>Base year</th>
<th>Period</th>
<th>(A) 1831 age estimates working forwards from 1821</th>
<th>(B) 1831 age estimates working backwards from 1841</th>
<th>(C) Mean of estimates (A) and (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1801</td>
<td>1790's</td>
<td>2,143</td>
<td>2,143</td>
<td>2,143</td>
</tr>
<tr>
<td>1811</td>
<td>1800's</td>
<td>2,219</td>
<td>2,219</td>
<td>2,219</td>
</tr>
<tr>
<td>1821</td>
<td>1810's</td>
<td>2,272</td>
<td>2,272</td>
<td>2,272</td>
</tr>
<tr>
<td>1831</td>
<td>1820's</td>
<td>2,076</td>
<td>2,076</td>
<td>2,076</td>
</tr>
<tr>
<td>1841</td>
<td>1830's</td>
<td>1,954</td>
<td>1,954</td>
<td>1,993</td>
</tr>
<tr>
<td>1851</td>
<td>1840's</td>
<td>1,741</td>
<td>1,741</td>
<td>1,741</td>
</tr>
</tbody>
</table>

**Table 3. Percentage Change in General Fertility Ratios for England and Wales, 1791–1851**

<table>
<thead>
<tr>
<th>Period of change</th>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800's</td>
<td>+3:55</td>
<td>+3:55</td>
<td>+3:55</td>
</tr>
<tr>
<td>1810's</td>
<td>+2:39</td>
<td>+2:39</td>
<td>+2:39</td>
</tr>
<tr>
<td>1820's</td>
<td>-8:63</td>
<td>-8:63</td>
<td>-8:63</td>
</tr>
<tr>
<td>1830's</td>
<td>-7:85</td>
<td>-5:88</td>
<td>-6:89</td>
</tr>
<tr>
<td>1840's</td>
<td>-8:99</td>
<td>-10:90</td>
<td>-9:93</td>
</tr>
</tbody>
</table>

The base year in Table 2 is the year from which the children 0–9 were taken. Thus the base year 1801 relates children 0–9 in this year to women 20–39 in 1791. The resulting ratio thus represents a fertility level for the 1790's. Since only one estimate for the age group 0–9 could be made for 1831 (i.e. working backwards from 1841), the series in Table 2 shows different values only for the 1830's where the ratio for this period was calculated from the three estimates of females aged 20–39 in 1831. Too much reliance cannot be placed on the ratios for the earlier periods, since this would push the assumption of constant mortality too far. The figures for the 1810's onwards would, however, be accurate enough to give a rough idea of the course of fertility change.

Each series shows similar trends. A major fall in fertility occurs during the 1820's, a lesser fall in the 1830's, and a slightly greater fall in the 1840's. On this basis it would appear that fertility did not remain high in the 1820's but, on the

1 Armstrong, op. cit. pp. 182, 183.
contrary, took its first major plunge of the nineteenth century. The fact that this fall occurred prior to any reorganization of the old Poor Law renders highly dubious the theory that the Poor Laws caused or maintained high fertility at a national level. This fall, moreover, cannot be attributed to a decline in poor expenditure since in real per capita terms this expenditure was higher in the 1820’s than in the 1810’s. Nor can the decline be attributed to any wholesale abandonment of family allowances prior to 1834. Question no. 39 in the Rural Queries section of the 1834 Poor Law Report allows for a rough quantitative assessment of the trend in the extent of the allowance system prior to 1832. The respondents were asked: “Can you state the particulars of any attempt to discontinue the system (after it has once prevailed) of giving parish allowances to able-bodied labourers in the employ of individuals (on their own account or on that of their families)?” Of the 910 parishes replying to the question, 584 (64.2 per cent) reported that they were currently operating or at one time had operated the allowance system. Of these 584 parishes, only 82 (14 per cent) reported attempts to abolish the payment of family allowances. This question, moreover, asked only about the termination of allowances. There is further evidence that several areas introduced or regularized the scale system in the 1820’s. The division of Chelmsford in Essex, for example, introduced the system in 1821. The hundreds of Utlesford, Clavering, and Freshwell in the same county initiated allowance scales in 1826. In Suffolk the system was permanently fixed only in 1816–17 with no decline up to 1834. The West Riding of Yorkshire introduced the system in 1826. Although it is difficult to be statistically certain, it would appear that the

<table>
<thead>
<tr>
<th>Period of change</th>
<th>Percentage of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1791–1800</td>
<td>+7.19</td>
</tr>
<tr>
<td>1801–1811</td>
<td>+3.31</td>
</tr>
<tr>
<td>1811–1821</td>
<td>−0.56</td>
</tr>
<tr>
<td>1821–1831</td>
<td>−6.30</td>
</tr>
<tr>
<td>1831–1841</td>
<td>−10.01</td>
</tr>
<tr>
<td>1841–1851</td>
<td>−1.91</td>
</tr>
</tbody>
</table>

In this case fertility remains relatively stable in the 1810’s and falls only slightly in the 1840’s. The first major fall, however, still occurs in the 1820’s. For other methods of calculation substantiating a decline in fertility in the 1820’s see Griffith, op. cit. pp. 31, 34 (Table vi and Diagram ii respectively), and also T. H. Marshall, ‘The Population Problem During the Industrial Revolution’, Econ. Hist. Rev. 1 (1929), 451. For William Farr’s decennial age estimates for 1801, 1811, and 1831 see 1871 Census of England and Wales, P.P. 1873, LXXI, pt II, 54, Table 58. Fertility ratios (children 0–9 per 1,000 women 20–39 in the previous Census year) calculated from Farr’s estimates reveal a similar trend to my percentage change figures in Table 2 above. Although Farr’s method is not entirely clear, he presumably based himself on English Life Table no. 3, 1838–54. See D. V. Glass, ‘Population and Population Movements in England and Wales, 1700 to 1850’, in D. V. Glass and D. E. C. Eversley, eds. op. cit. pp. 226, 227.

2 Average per capita poor expenditure in terms of quarters of wheat purchasable per 100 persons was calculated for England and Wales for the periods 1812–21 and 1822–31 from data on annual poor expenditure and wheat prices given in M. Blaug, ‘The Myth of the Old Poor Law and the Making of the New’, Jnl. Econ. Hist. xxiii (1963), 151–64, Appendix B. Poor expenditure in each year from 1812 to 1831 was converted into quarters of wheat purchasable by these amounts. In the period 1812–21 poor expenditure was equivalent on average to 1,680,885 quarters of wheat purchased annually as opposed to 2,100,382 quarters in the period 1822–31. Relating these averages to estimated populations for England and Wales in 1816 and 1826 respectively, the period 1812–21 had an annual per capita poor expenditure equivalent to 14.8 quarters of wheat per 100 persons, and the period 1822–31, 16 quarters per 100 persons.


4 For reference to the above areas see Poor Law Report, P.P. 1834, xviii, 223, 227, 342, 730 respectively.
payment of family allowances was not drastically curtailed prior to 1834. The overall national decline in fertility in the 1820’s must thus be seen as fundamentally independent of trends in the old Poor Law.¹

Aside from the above national considerations, Krause’s methodology is open to criticism. He does not in any detail specify the mechanism by which poor expenditure increased fertility, nor does he discuss different types of Poor Law administration. Were earlier or more frequent marriages the mechanism? Were family allowances important? Since he employs poor expenditure per family as his unit, one must assume his mechanism to bear some relation to allowances. It is significant that six of his seven “Poor Law” counties are classified by Blaug as allowance counties in 1824.² If one uses Blaug’s classification for 1824 and relates this to fertility ratios for all counties in 1821, the “Spenhamland” counties (where allowances-in-aid-of-wages were prominent) possess a mean general fertility ratio of 617 children 0–4 per 1,000 women 15–49, the “non-Spenhamland” counties 608, a difference of only 1.5 per cent—hardly substantial enough to posit a relationship between Poor Law administration and fertility.³

IV

The previous section presented some national material in addition to raising methodological objections to the approaches of Griffith, Blackmore and Mellonic, and Krause. These objections were essentially threefold—first, the lack of standardization in groups whose demographic experience was being compared and the resultant failure to isolate the Poor Law factor as a variable; secondly, vagueness in classification with respect to the nature and timing of Poor Law administration; and thirdly, particularly in the case of Krause, no attempt to explain the mechanism by which the Poor Laws supposedly affected population growth.

By applying the microscope to two parishes in the county of Kent, and thus working with much smaller units where the type and duration of Poor Law administration are known, these deficiencies can be overcome. The method is this. It is evident that Malthus and the government commissioners in their statements

¹ Mark Blaug makes a firm distinction between allowances-in-aid-of-wages and children’s allowances. He argues that the latter, especially in payments for the third and fourth child, remained prevalent up to 1832 whereas the former, which he more strictly interprets as the Spenhamland system, “generally disappeared” by 1832. It is true that the wording of Q. 39 is ambiguous in the sense that “on their own account or on that of their families” could be interpreted as referring to children’s allowances. The questions in the Rural Queries, however, were divided into three sets. Sets (1) and (2) of Q. 39, to which 332 parishes replied, asked only about allowances to able-bodied labourers and would thus refer to payment of wages out of the rates, or Spenhamland as Blaug defines it. Of these 332 parishes, 188 (56.6 per cent) reported that they were operating or had operated Spenhamland. Of these 188, only 17 per cent reported abolition. Thus in terms of payment of wages out of the rates the decline was not much greater than in the overall sample and by no means general. Blaug’s statement, moreover, is based on a comparison of the 1824 Report on Labourers’ Wages and the 1834 Poor Law Report, and these two pieces of evidence are not fully comparable. See M. Blaug, ‘The Poor Law Report Re-examined’, Jnl. Econ. Hist. xxiv (1964), 232.

² Blaug, Jnl. Econ. Hist. xxiii (1963), 158.

³ This conclusion is more forcefully supported by taking the median levels of the general fertility ratios in the two groups. The non-Spenhamland counties reveal a median level of 617 compared to a median of only 602 in the Spenhamland group. It is, moreover, probable that the Spenhamland counties as a whole had a lower level of infant mortality than the more industrialized non-Spenhamland group. This would tend to raise the general ratio levels in the former group independently of fertility. Even with this advantage, however, the Spenhamland counties still reveal a lower median ratio. Thus the likelihood of Poor Law administration operating via fertility is even more in doubt.
referring to population and the Poor Law constantly made a demographic distinc-
tion between the higher orders not directly affected by the Poor Law, and the
lower orders where the check to marriage was undermined and the resultant
impetus for population increase took place. It is the assumption of my method
(and of the Malthusian position) that significant demographic changes among
that part of the population affected by the allowance system would be great
enough to be reflected in the birth, death, and marriage rates for the total popu-
lation, especially in parishes where the majority of male adults was employed as
agricultural labourers and where a sizeable proportion was in receipt of relief.

Given this assumption, then, according to the Malthusian view which claims
that the allowance system was a prime factor in promoting population increase,
one would expect that parishes in which the allowance system was in force would
reveal markedly higher birth and especially higher marriage rates than parishes
which gave no allowances, given roughly similar social and economic structures
and geographical conditions.

In an attempt to isolate the Poor Law factor as a variable, two very similar
agricultural parishes were chosen, both in the North Downland area of Kent—
Lenham, a parish of 6,890 acres in mid-Kent, and Barham, comprising 4,480
acres some 15 miles to the east. Both parishes consisted of roughly 40 per cent
arable, the rest mainly pasture and woodland. As seen by the following table both
parishes had a majority of families employed in agriculture in the early nine-
teenth century.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of families employed in</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agriculture</td>
</tr>
<tr>
<td></td>
<td>Lenham</td>
</tr>
<tr>
<td>1811</td>
<td>65.4</td>
</tr>
<tr>
<td>1821</td>
<td>58.0</td>
</tr>
<tr>
<td>1831</td>
<td>65.5</td>
</tr>
</tbody>
</table>

Sources: Census of England and Wales, 1811, 1821, 1831.

The 1831 Census, furthermore, shows 52.3 per cent of males of 20 and over em-
ployed in agriculture in Lenham, and 47.2 per cent in Barham.1 Hops were
grown in both parishes providing, along with harvest work, employment for
women and children.2 Wages did not vary considerably in the two parishes,
averaging £30 per year in Barham in 1832, and £35 per year in Lenham for day
labourers in steady employment.3 Both parishes reported diminishing farming
capital and agricultural depression in the 1820’s and both had surpass labour
problems, although Lenham’s was reported as more severe.4

The most prominent distinction between these two parishes in the 1820’s was

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1 The Census also allows for a further breakdown with respect to the average number of labourers and
farm servants employed by occupiers. Lenham in 1831 averaged 11.6 labourers and farm servants per
occupier employing labour. Barham was again very similar with its average of 12.
2 Poor Law Report: Answers to Rural Queries Pt I, P.P. 1834, xxx, Q. 11, pp. 237, 252, for Barham and
Lenham respectively. Subsequently referred to as Rural Queries.
3 Ibid. Q. 10. With respect to yearly earnings by the labourer’s wife and children, however, £13 per
year was stated as the average for Barham, and only £5 per year for Lenham. Thus family earnings on
the whole would average out slightly higher in Barham than in Lenham.—Ibid. Q. 13.
4 Rural Queries, Pts I and III, P.P. 1834, xxx, xxxii, QQ. 6, 36 respectively, pp. 237, 252.
the type of Poor Law Administration in effect. Barham, in many respects, was an ideal parish in the eyes of the Poor Law Commissioners. The Guardian of the Poor reported in 1832: “We have never considered it right to pay any portion of the farmer’s labour out of the Poor Rates.” No one was in receipt of regular relief and only in two or three cases were persons relieved on account of their families, and this only in the form of occasional payments of rent. The overseer, moreover, always took the character of the applicant for relief into consideration, and the independent spirit of the labourers was emphasized, “persons of good character seldom making an improper application”. The system of paying allowances-in-aid-of-wages had never been adopted. The fact that every labourer in this parish was supplied with “from 15–20 perches of land by the Farmers at the same rent as is paid by themselves” was probably significant in Barham’s avoidance of the allowance system. The parish, moreover, had little conflict with the magistrates in its division.¹

Lenham was completely the opposite. If any parish in Kent could be considered “notorious” by the standards of the Poor Law Commissioners this was it. For here were all the familiar mechanisms thought to promote population increase. The allowance system had been adopted in 1822, and the 1834 Report set out the scale of allowances according to which the wages of labourers out of employ or only in partial employ were made up:

Table 5. Scale of Allowances in Lenham Parish, 1832

<table>
<thead>
<tr>
<th>Single man</th>
<th>from 3s. 6d. to 7s. 6d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Man and wife</td>
<td>10s.</td>
</tr>
<tr>
<td>Man and wife with 1 or 2 children</td>
<td>12s.</td>
</tr>
<tr>
<td>Man and wife with 3 children</td>
<td>13s.</td>
</tr>
<tr>
<td>Man and wife with 4 children</td>
<td>14s.</td>
</tr>
<tr>
<td>Man and wife with 5 children</td>
<td>15s. 6d.</td>
</tr>
<tr>
<td>Man and wife with 6 children</td>
<td>17s.</td>
</tr>
<tr>
<td>Man and wife with 7 children</td>
<td>18s. 6d.</td>
</tr>
<tr>
<td>Man and wife with 8 children</td>
<td>20s.</td>
</tr>
</tbody>
</table>


Unlike Barham, Lenham was characterized by lax administration. In reply to the question of whether any consideration was given to the character of the applicant or the cause of his distress the answer was: “None whatever. The greatest thief in the Parish has the Magistrate’s allowance; the honest but unfortunate get no more... The idle and dissolute are paid equally with the industrious and prudent.”²

The scale system of paying more to married men, according to the testimony of the annual overseer in 1831, offered a direct encouragement to marriage: “There have been a great many young men married in consequence of being kept short. Some of them married at eighteen.”³ The 1834 verbal evidence was even

¹ The above information is taken from Rural Queries, Pts II, III, and IV, PP. 1834, xxxi, xxxii, xxxiii, QQ. 24, 25, 29, 43, pp. 237, 252. The Guardian of the Poor, moreover, had held office for eighteen years. The general impression, then, is of a parish with a firm and stable administration.

² Rural Queries, Pt II, P.P. 1834, xxxi, Q. 26, p. 252. The levels of per capita poor expenditure in the two parishes in the 1820’s bear out their contrasting types of administration. Relating average annual poor expenditure for the decade 1820–30 to estimated populations in 1825, Lenham averaged 26·8s. per head compared to Barham’s 15·8s. per head.

³ Report by the Lords’ Select Committee Appointed to Consider the Poor Laws, P.P. 1831, viii, 91.
more to the point. "It will appear from the scale", commented the Assistant Commissioner, "that on marriage there is an immediate increase of 3s. per week." The result was that early marriages were constantly taking place. He cites the following example: "A man lately married a girl who left her place for that purpose on Wednesday; they applied for relief on the Saturday." Referring to the workhouse in a footnote he adds: "Young men have been sometimes sent there but they have said, 'You put us in to punish us; we will only marry the sooner.'" 1

The overseer in 1832, asked about the possible effects of abolishing the allowance system, replied: "It would immediately prevent the formation of improvident marriages which are weekly taking place here in consequence of the premium held out by the foregoing scale..." 2

By exploiting the Census material available for the period 1821–30 it is possible to construct crude birth, death, marriage, and infant-mortality rates for these two parishes. Unfortunately the majority of original clergyman’s Census returns in the early nineteenth century were destroyed by official order in 1904. The returns for the Population Abstract portion of the 1831 Census, however, do survive for each parish in England and Wales and contain a wealth of demographic data for the period 1821–30. 3 For each of these years totals of baptisms and burials are given, distinguishing males and females, as well as the number of marriages. The burials for each year are further analysed by age at death, and it is thus possible to ascertain the number of infants dying under one year old. Most important, however, the clergy were asked to estimate the yearly annual average number of baptisms, marriages, and burials unentered due to nonconformity and other factors. The clergy’s comments on their estimates provide valuable clues to the reliability of the registers.

The question could legitimately be raised at this stage as to the actual number in receipt of relief in the parish of Lenham. If, for example, there were only 20 people on relief out of a total population of 2,197 in 1831 it would be absurd to proceed with the construction of comparative crude rates, for this number of people could not significantly affect overall population trends. The Assistant Commissioner for Kent, however, referring to Lenham in the year 1833, stated that some 1,200 persons or almost 55 per cent of the population had received relief. This figure no doubt included many strangers and others relieved for short durations, and also, perhaps, is subject to double counting. Nevertheless it reveals a substantial proportion of the community directly affected by Poor Law relief. A clearer picture emerges by examining the overseer’s accounts for the year 1826–7 where all paupers in receipt of outdoor relief were listed individually. 4 Excluding 522 strangers relieved in that year in very small amounts, a total of 421 parishioners or over 19 per cent of the local population had received outdoor relief. Of these 421 persons, 251 were male adults (unfortunately the data do not allow for analysis of marital status) or almost 50 per cent of all male adults in the parish. There is no doubt that any demographic changes produced by the Poor Law in this section of the population would be reflected in the overall crude rates.

The following table sets out crude birth, marriage, and death rates and includes infant-mortality figures expressed as the number of deaths under one

1 Poor Law Report, P.P. 1834, xxviii, 214. 2 Rural Queries, Pt IV, P.P. 1834, xxxiii, Q. 40, p. 252. 3 P.R.O. HO.71/35–9 for Kent. 4 East Kent Record Office, P.224, 12/11, 12.
year of age per 1,000 births. No correction factors have been applied to account
for under-registration since both clergymen stated in their individual Census
returns for 1831 that no vital events had gone unregistered.

Table 6. Crude Birth, Death, and Marriage Rates for Lenham and Barham Parishes,
1821–30, including Infant Mortality*

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Birth-rate</th>
<th>Death-rate</th>
<th>Marriage-rate</th>
<th>Infant mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lenham</td>
<td>Barham</td>
<td>Lenham</td>
<td>Barham</td>
<td>Lenham</td>
</tr>
<tr>
<td>1821</td>
<td>1,959</td>
<td>912</td>
<td>33.2</td>
<td>26.3</td>
<td>4.6</td>
</tr>
<tr>
<td>1822</td>
<td>1,967</td>
<td>922</td>
<td>38.6</td>
<td>30.4</td>
<td>17.8</td>
</tr>
<tr>
<td>1823</td>
<td>1,998</td>
<td>940</td>
<td>34.0</td>
<td>25.5</td>
<td>13.0</td>
</tr>
<tr>
<td>1824</td>
<td>2,030</td>
<td>947</td>
<td>32.5</td>
<td>35.9</td>
<td>12.8</td>
</tr>
<tr>
<td>1825</td>
<td>2,060</td>
<td>955</td>
<td>39.8</td>
<td>36.6</td>
<td>17.5</td>
</tr>
<tr>
<td>1826</td>
<td>2,096</td>
<td>971</td>
<td>30.1</td>
<td>36.0</td>
<td>28.1</td>
</tr>
<tr>
<td>1827</td>
<td>2,090</td>
<td>986</td>
<td>34.0</td>
<td>30.4</td>
<td>15.3</td>
</tr>
<tr>
<td>1828</td>
<td>2,119</td>
<td>1,006</td>
<td>38.7</td>
<td>35.8</td>
<td>11.3</td>
</tr>
<tr>
<td>1829</td>
<td>2,167</td>
<td>1,022</td>
<td>28.6</td>
<td>29.4</td>
<td>22.6</td>
</tr>
<tr>
<td>1830</td>
<td>2,170</td>
<td>1,026</td>
<td>32.3</td>
<td>44.8</td>
<td>13.4</td>
</tr>
<tr>
<td>1821–30</td>
<td></td>
<td></td>
<td>34.2</td>
<td>33.1</td>
<td>17.6</td>
</tr>
</tbody>
</table>

* For annual totals of births, deaths, marriages, and infant deaths, see Appendix.

These rates appear well within the limits of plausibility. D. E. C. Eversley, working
with 12 parishes in Worcestershire, arrived at birth, death, and marriage
rates of 32.43, 19.67, and 6.67 respectively for the same period.1

Barham, which did not operate an allowance system, experienced a slightly
greater percentage population increase between 1821 and 1831 (15.4) as com-
pared to Lenham’s increase of 12.2. It must be noted, however, that Lenham
lost approximately 100 people due to emigration in this period whereas Barham
had virtually no net loss. If these people had remained in Lenham its percentage
increase (17.7) would have been slightly greater than Barham’s. Lenham’s
average birth-rate was slightly higher than in the non-allowance parish, whereas
its marriage-rate was considerably lower than Barham’s. The contrast in the
latter rate is more dramatically stated if one relates marriages to males over 20
years of age in 1831. Taking the annual average number of marriages in each
parish, Barham had 29.1 marriages per 1,000 males over 20 whereas Lenham
had only 19.7.

Lenham’s infant mortality, however, appears to be much lower than Barham’s
although not so much lower as to produce a dramatic difference in the overall
dearth-rate. Mark Blaug has suggested that the allowance system promoted popu-
lation increase primarily by lowering infant mortality rather than increasing the
birth-rate.2 His suggestion appears to be substantiated here, although not to the
extent of promoting much more rapid population growth. It must be stated, how-
ever, that infant mortality figures, owing to the small numbers involved and the
greater possibility of non-registration, are subject to a much greater degree of

Basis of Parish Records’, Population Studies, x (1955–6), 253–79. His infant-mortality rates average 75 for
the period 1800–24 and 138 for the period 1825–49.
2 Blaug, Jnl. Econ. Hist. xxiii (1963), 174. Mellonie and Blackmore also hold this view but like Blaug
use no infant-mortality statistics to reach this conclusion. See also Eversley, Social Theories of Fertility, p. 59.
error. The drastic fluctuations in the infant-mortality statistics would suggest this.\(^1\)

Since the Census material gives the total number of inhabited houses in each parish as well as the total population it is possible to calculate mean household size at ten-yearly intervals.

Table 7. Household Size in Lenham and Barham, 1801–31

<table>
<thead>
<tr>
<th>Year</th>
<th>Total population</th>
<th>Number of inhabited houses</th>
<th>Mean household size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lenham</td>
<td>Barham</td>
<td>Lenham</td>
</tr>
<tr>
<td>1801</td>
<td>1,434</td>
<td>751</td>
<td>269</td>
</tr>
<tr>
<td>1811</td>
<td>1,509</td>
<td>816</td>
<td>301</td>
</tr>
<tr>
<td>1821</td>
<td>1,959</td>
<td>912</td>
<td>383</td>
</tr>
<tr>
<td>1831</td>
<td>2,197</td>
<td>1,053</td>
<td>409</td>
</tr>
</tbody>
</table>

Sources: Census of England and Wales, 1801, 1811, 1821, 1831.

Lenham’s mean household size was much lower than Barham’s in 1831 and, more important, had decreased under the allowance system from the 1821 level of 6·53. Barham, on the other hand, where no allowances were granted, experienced an increase in its mean household size during the 1820’s.

The data forcefully contradict any Malthusian expectations one might have had concerning the two parishes, most convincingly with respect to Lenham’s lower marriage-rate and decreasing household size. If the Poor Laws, as Malthus and the early nineteenth-century government reports argued, operated as a significant inducement to marriage one would have expected Lenham’s marriage-rate in the 1820’s to be much greater than Barham’s. If significant increases in fertility had occurred due to allowances in Lenham one would perhaps have expected some increase in mean household size.\(^2\) The rate of population increase in the 1820’s should have been much more rapid in the allowance parish. In all three instances no such clear trend emerges. It is possible that emigration from Lenham had some effect in lowering its marriage-rate, although it is by no means certain that emigration was primarily in the form of single persons of marriageable age.\(^3\) Even if this was the case, however, it would still cast doubt on the Malthusian argument, since the incentive to remain in the parish and marry for allowances would not apply.

Although an attempt was made to standardize the two parishes of Lenham and Barham with respect to social and economic characteristics and thus to emphasize as much as possible their differing types of Poor Law administration, the possi-

\(^1\) See Appendix for the application of standard deviation tests of significance to the crude rates in Table 6.

\(^2\) Mr Peter Laslett of the Cambridge Group for the History of Population and Social Structure has kindly communicated to me data which perhaps would qualify the above statement. His step-wise regression analysis by computer of 100 pre-industrial communities (ranging in time from the sixteenth to the early nineteenth century) reveals that the most prominent variable governing household size is the proportion of servants in the community. It is thus possible that Lenham’s lower household size was due to the presence of a lesser proportion of servants than in Barham, and that its declining household size in the 1820’s was likewise related to a changing proportion of servants. Unfortunately data in the 1831 Census do not clearly distinguish agricultural servants living in and one cannot test this factor. Given, however, Lenham’s and Barham’s similar geographical location and types of farming, and that similar occupational structures seem to prevail (see p. 445 above), it is likely that fertility would have greater preponderance as a factor affecting household size than in Mr Laslett’s overall sample. Lenham’s declining household size would certainly not support any firm relationship between allowances and fertility.

\(^3\) The overseer of Lenham stated in 1830 that few young men had left the parish.—Lords’ Select Committee on Poor Laws, P.P. 1831, viii, 91.
bility of other dissimilar factors affecting the vital rates still remains. If we calculate crude rates for Lenham in the early nineteenth century, however, the case against Malthus emerges more clearly:

<table>
<thead>
<tr>
<th>Period</th>
<th>Mean birth-rate</th>
<th>Mean death-rate</th>
<th>Mean marriage-rate</th>
<th>Mean infant mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1801–10</td>
<td>34.8</td>
<td>19.6</td>
<td>5.0</td>
<td>104.4†</td>
</tr>
<tr>
<td>1811–20</td>
<td>34.6</td>
<td>16.2</td>
<td>5.6</td>
<td>84.8</td>
</tr>
<tr>
<td>1821–30</td>
<td>34.2</td>
<td>17.6</td>
<td>5.1</td>
<td>87.6</td>
</tr>
<tr>
<td>1831–5</td>
<td>31.9</td>
<td>14.7</td>
<td>4.8</td>
<td></td>
</tr>
</tbody>
</table>

* The Parish Registers on which these statistics are based remain with the incumbent at Lenham who kindly granted permission to consult them.
† For period 1813–20.

Again the data forcefully contradict the Malthusian contention. The marriage-rate did not rise with the introduction of the allowance system in the early 1820’s but on the contrary fell, eventually to its lowest level of the early nineteenth century, in the period 1831–5. The birth-rate remained relatively stable in the period 1821–30 and likewise dropped to a new low level in the period 1831–5. If, as Malthus and the Commissioners claimed, the allowance system meant a trend towards earlier marriage one would have expected a rise in the birth-rate in the period 1821–35. Such was not the case. Infant mortality did drop in the period 1821–35, however, again lending some credence to Blaug’s suggestion that allowances operated via mortality rather than fertility, although the rise in the general death-rate for the period 1821–30 would suggest that the trend in infant mortality was of limited overall demographic importance.

These conclusions with respect to Lenham have broad implications for the viability of the Malthusian position. The Rural Queries section of the 1834 Poor Law Report gives information for 57 parishes in Kent on whether or not allowances were given and at what child they commenced. Of all parishes reporting, 79 per cent gave allowances. However, of those parishes giving allowances, only 20 per cent gave allowances commencing with the first child. In over 64 per cent of these parishes allowances commenced only with the third, fourth, or fifth child. By far the most common occurrence was for allowances to commence at the fourth child. If the effects of the allowance system were insignificant in Lenham, where a liberal allowance scale commenced at marriage and was paid for subsequent children, the Malthusian impetus to marriage would be even less in parishes where allowances commenced only at the third, fourth, or fifth child, parishes which were in a majority. Assuming the 57 parishes replying to the Rural Queries to be representative of Kent as a whole, the likelihood of the Poor Laws having significant demographic effects on a county scale appears remote. This would apply even more on a national scale since in 1834 only 0.2 per cent of the parishes in England and Wales made payments for the first two children.

1 Rural Queries, Pt II, P.P. 1843 xxxi, QQ. 24, 25, pp. 235–68.
2 Mark Blaug’s calculation based on all parishes in England and Wales replying to the Rural Queries. See Blaug, Jnl. Econ. Hist. xxiv (1964), 239n. In 1824 allowances for the first child were not common even in counties where wages were regularly subsidized out of the rates.—Blaug, Jnl. Econ. Hist. xxiii (1963), 160.
V

The conclusions of this paper are thus twofold: (1) that the contention of Malthus and the early nineteenth-century government commissioners that the Poor Laws, and in particular the allowance system, by undermining the preventive check, were a primary cause of population increase, is fundamentally erroneous, and (2) that the allowance system did not operate to increase birth- or marriage-rates, but possibly meant a reduction in infant mortality, although not substantial enough to affect the general death-rate or to increase noticeably the rate of population growth. Whether these conclusions will bear the test of wider statistical inquiry remains to be seen.¹ Studies of allowance systems operating in the twentieth century certainly offer no firm evidence of a Malthusian relationship between family payments and demographic patterns.² It would thus appear at this stage that those who see in the Old Poor Law a crucial inducement to marriage and fertility will have to reconsider their position. This is not necessarily to argue against the "birth-rate" view of population increases during the Industrial Revolution but merely to dispute the causes. Malthus, and especially his 1834 Poor Law Report contemporaries, viewed the connexion between the Poor Law and population increase as a strict one-way relationship—the former variable causing the latter. A more fruitful model would turn this proposition on its head. Just as Blaug has argued that Speenhamland was essentially a reaction to low wages rather than a cause, so the allowance system might be viewed as a reaction to population increase rather than as a stimulus. Along this line of reasoning Speenhamland and its attendant family allowances can be seen as a response to a wide range of social and economic forces to which population growth was inextricably linked. This response, moreover, was often of a haphazard nature subject to the whims of overseers of the poor and local magistrates, and superimposed on a variety of social and cultural patterns. It is unlikely that the income transfers which accompanied this response could have outweighed these more deep-rooted factors. Although the Malthusian Poor Law—population theory was ideally suited to contemporaries who wished to explain away the problems of poverty by shifting the blame on to the shoulders of the procreating poor, its merit in explaining early nineteenth-century demographic trends is extremely dubious.

University of Kent

¹ A wider survey is currently in progress, however, on 17 parishes mainly in south-east England which effectively abolished Speenhamland roughly in the mid-1820's. Preliminary results using the P.R.O. HO.71 data confirm the conclusions offered above. The change in Poor Law administration reveals no demographic repercussions except possibly via mortality. It is hoped in future to publish the full results of this investigation along with a more positive model of interaction.

APPENDIX

The absolute numbers of vital events for the parishes of Lenham and Barham between 1821 and 1830 are as follows:

**Numbers of Births, Deaths, Marriages, and Infant Deaths in Lenham and Barham, 1821–30**

<table>
<thead>
<tr>
<th>Year</th>
<th>Births Lenham</th>
<th>Barham</th>
<th>Deaths Lenham</th>
<th>Barham</th>
<th>Marriages Lenham</th>
<th>Barham</th>
<th>Infant deaths Lenham</th>
<th>Barham</th>
</tr>
</thead>
<tbody>
<tr>
<td>1821</td>
<td>65</td>
<td>24</td>
<td>47</td>
<td>14</td>
<td>9</td>
<td>4</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>1822</td>
<td>76</td>
<td>28</td>
<td>35</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>1823</td>
<td>68</td>
<td>24</td>
<td>46</td>
<td>17</td>
<td>23</td>
<td>8</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1824</td>
<td>66</td>
<td>34</td>
<td>46</td>
<td>26</td>
<td>16</td>
<td>5</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>1825</td>
<td>82</td>
<td>35</td>
<td>36</td>
<td>19</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>1826</td>
<td>63</td>
<td>35</td>
<td>59</td>
<td>20</td>
<td>11</td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>1827</td>
<td>71</td>
<td>30</td>
<td>32</td>
<td>10</td>
<td>10</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>1828</td>
<td>82</td>
<td>36</td>
<td>24</td>
<td>20</td>
<td>9</td>
<td>7</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>1829</td>
<td>62</td>
<td>30</td>
<td>49</td>
<td>26</td>
<td>5</td>
<td>12</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>1830</td>
<td>70</td>
<td>46</td>
<td>29</td>
<td>22</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Total 1821–30</td>
<td>705</td>
<td>322</td>
<td>363</td>
<td>184</td>
<td>105</td>
<td>74</td>
<td>59</td>
<td>37</td>
</tr>
</tbody>
</table>

Owing to the small numbers upon which the vital rates were calculated, standard deviation tests were performed on the mean rates given in Table 6 (see text) to determine whether the difference in these rates was significant.

**Significance of Birth, Death, Marriage, and Infant Mortality Rates in Lenham and Barham, 1821–30**

<table>
<thead>
<tr>
<th></th>
<th>Birth-rate</th>
<th>Death-rate</th>
<th>Marriage-rate</th>
<th>Infant-mortality rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lenham</td>
<td>Barham</td>
<td>Lenham</td>
<td>Barham</td>
</tr>
<tr>
<td>Mean rate</td>
<td>34·20</td>
<td>33·10</td>
<td>17·60</td>
<td>18·90</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>3·55</td>
<td>5·52</td>
<td>5·32</td>
<td>5·33</td>
</tr>
<tr>
<td>Difference between</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the means</td>
<td>1·10</td>
<td>1·30</td>
<td>2·50</td>
<td></td>
</tr>
<tr>
<td>Standard error</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of difference</td>
<td>2·08</td>
<td>2·38</td>
<td>1·18</td>
<td></td>
</tr>
<tr>
<td>Significance (5%)</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

For statistical significance (at the 5 per cent level) the difference between the means must be at least twice the standard error of difference. Thus the difference between the mean rates in Lenham and Barham emerges as significant only in the case of marriages. In other words the difference in the baptism, death, and infant-mortality rates very likely occurred by chance, whereas the difference in the marriage rates is statistically significant.

These tests would thus support the conclusions that the Poor Law in Lenham produced no significant difference between its birth- and death-rates as opposed to Barham. That Lenham's marriage-rate was definitely lower than Barham's is further confirmed, and supports the conclusion that the Poor Law certainly did not produce a tendency towards a higher marriage-rate in the allowance parish. The fact, however, that the difference in the mean infant-mortality rates was not significant must qualify the possibility suggested in the text that the allowance system operated via a tendency to reduce infant mortality.